

## **WHAT IS CLAIMED IS:**

1. A system for controlling an output of an electrosurgical generator comprising:
  - a drive circuit for generating an output, the output being responsive to a feedback signal and operatively coupled to at least one electrode of the electrosurgical generator;
  - at least one sensing circuit operatively coupled to the at least one electrode for generating at least one signal, the at least one signal corresponding to a value of a waveform present on the at least one electrode;
  - a processing circuit for receiving the at least one signal, the processing circuit including associated circuitry for determining a value of the at least one signal;
  - a determining circuit in communication with the processing circuit for generating an output signal, the output signal being representative of the value of the at least one signal; and
  - a control circuit for generating a feedback signal, the feedback signal representative of a difference between a value of the output signal and a reference value, the feedback signal operatively coupled to the drive circuit.
2. The system of claim 1, wherein the processing circuit includes at least one digital signal processor.
3. The system of claim 2, wherein the at least one digital signal processor includes a Goertzel algorithm.

4. The system of claim 3, wherein the Goertzel algorithm determines phase difference between a voltage waveform and a current waveform.
5. The system of claim 4, wherein the phase difference is used to compensate for energy delivery at the operating site.
6. The system of claim 4, wherein the phase difference provides feedback to the generator about tissue relating to at least one of: tissue change over time, tissue impedance, tissue type, tissue cycle completion.
7. The system of claim 1, wherein the at least one sensing circuit includes a voltage sensing circuit and/or a current sensing circuit.